Practice Specification
Fence (Code 382)

GENERAL USE

This practice facilitates the accomplishment of conservation objectives by providing a means to control movement of animals and people, including vehicles (fences are not needed where natural barriers will serve this purpose). A fence may be applied as part of a conservation management system to facilitate the application of conservation practices that treat the soil, water, air, plant, animal, and human resource concerns.

Fences shall consist of acceptable designs to manage the animal(s) or people of concern and meet the life span of the practice. Locate fences to help facilitate management of different landuses and special management areas such as ecological sites, pasture types, riparian areas, critical eroding areas, etc. Consider installing fences in locations that will facilitate maintenance avoiding irregular terrain and/or water crossings. Consider fencing along the contour to minimize livestock trailing and subsequent erosion.

If the primary reason for the fence is to facilitate livestock distribution, a grazing management plan will be developed and/or revised according CPS-528 Prescribed Grazing standard and specification. Install fences in areas that will best facilitate the handling, feeding, watering and movement of the type of livestock managed. For horses, consider avoiding the use of barbed wire and steel T-Posts when possible in order to minimize potential injury, especially when areas of confinement are small. When installing interior fences to facilitate livestock movement, temporary fences may be considered in order to minimize costs and allow for flexibility in the system. Locations should allow for the shortest and straightest distances.

Introduce naive animals to electric fencing in a designated training facility. Select a well fenced area and construct an electric fence across or around the area to allow animals to come in contact with the electric fence. Most animals will be trained in 48 hours.

Fences installed in areas of heavy wildlife movement / traffic, consideration should be given to wire types and spacing. Spacing of top and bottom wires should be adequate for the movement of the types of wildlife being managed. Where white-tailed deer occur, and the height of fence is less than 48 inches, consider spacing the top two wires 10 inches apart to reduce the hazard of catching deer in the fence. If 47-inch net wire is used, not using another top wire or placing barb wire directly on top of net wire should be considered. Where barbed wire is used, the cooperator may choose smooth wire as the top wire to reduce potential for harm to deer jumping over a fence. In areas of the state where the movement of antelope can be an issue, the bottom wire may be positioned to allow for easy movement of antelope. Generally, the bottom wire can be set at 18 inches from the surface of the soil allowing antelope freedom to move from pasture to pasture without injury. **Contact State and/or Zone Wildlife Biologist for guidance regarding wildlife fencing needs.**

FENCE COMPONENTS AND MATERIAL SPECIFICATIONS

- **A. BRACE ASSEMBLIES** (Table 2)

  i. Are the foundation upon which the fence is built. Determine structural soundness and longevity.

  ii. Required where fence starts, stops, or has a change in direction of 20º or more.

  iii. Design and spacing are determined from factors such as number of wires used, type of wire, soil type, terrain and animals to be restrained.

  iv. Posts (Figure 1)

  - Definitions:
  - **Post** – Structural support of the fence, typically vertical but may be horizontal or diagonal.
  - **Anchor Post** – Load bearing post of a fence, usually will be a corner or end post.

- **Corner Post** – Anchor post at any location where fence changes direction 20º or more.
- **End Post** – Anchor post that is at the beginning or end of the fence line.
- **Gate Post** – Anchor post to which a gate is attached.

- **Brace Post** – Vertical post in brace assembly providing support to the anchor post
- **Diagonal brace member** – Post set in a diagonal aspect between two vertical posts.
- **Horizontal brace member** – Horizontal post attached between two vertical posts. **Will be placed no lower than 2/3 height of top wire of fence (ex. top wire is 48 in., member placed not lower than 32 in.).**
- **Line Post** – Post which support main linear body of fence, keep fence in a straight line, and support the top rail, if one exists.

Figure 1

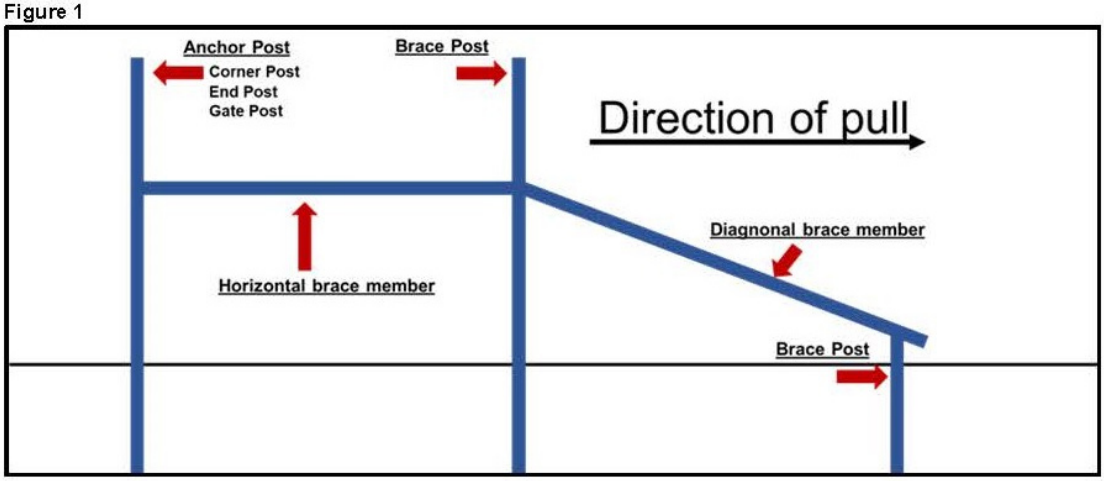


Table 1

	Minimum for Wood Posts				Minimum for Steel Posts				
			Depth to set (ft)					Depth to set (ft)	
Post	Top Diameter (in)	Length (ft)	Backfilled (dirt or concrete)	Driven	Pipe Diameter (in)	Angle Measure (in)	Length (ft)	Backfilled (dirt or concrete)	Driven
Anchor post [1]	6	***See below	3	3	2 3/8	2 ½ x 2 ½ x ¼	*See below	3	5
Brace post	5	***See below	3	3	2 3/8	2 ½ x 2 ½ x ¼	*See below	3	5
Diagonal brace member	4				2 3/8	2 ½ x 2 ½ x ¼			
Horizontal brace member	4	6			2 3/8	2 ½ x 2 ½ x ¼	6		
Line post (Not T-post)	3	***See below	2 ½	2 ½	2 3/8		*See below	2	2
Line post ("T" or "U section")					1.25 lbs/ft		**See below	Driven to bury anchor plate 2 in.	

[1] Includes Corner, End, and Gates posts

- **1. POST MATERIALS** (Table 1)
  - **Steel pipe**
    - *Minimum length will allow for required buried depth and fence height plus a minimum of two (2) inches of post above top wire.
    - Will be permanently capped
    - Will be painted or galvanized.
  - **Steel "T" or "U section"**
    - Will be high carbon steel weighing not less than 1.25 lbs / foot of length, exclusive of

anchor plate.

- **Minimum length will allow for driven depth to have anchor plate completely in ground (at least two (2) inches and fence height plus a minimum of two (2) inches of post above top wire.
- Will have an anchor plate and be studded, embossed, or punched for wire attachment.
- Will be new, galvanized or enameled and baked (components will be repainted if rusting occurs)

- **Wood**
  - ***Minimum length will allow for required buried depth and fence height plus a minimum of two (2) inches of post above top wire.
  - Material will be new, sound, and treated by a method to ensure complete penetration of sapwood is obtained. Treatment shall be in accordance with Federal Specifications No. TT-W-571i (.4 retention).
    - **Exception for cedar, mesquite, Bois d'arc, catalpa, and black locust.**

Common treatments for pine and oak species are as follows:

Treatment	Retention lb/ft^3
creosote coal tar	6.0
pentachlorophenol	0.3
chromated copper arsenate	0.4

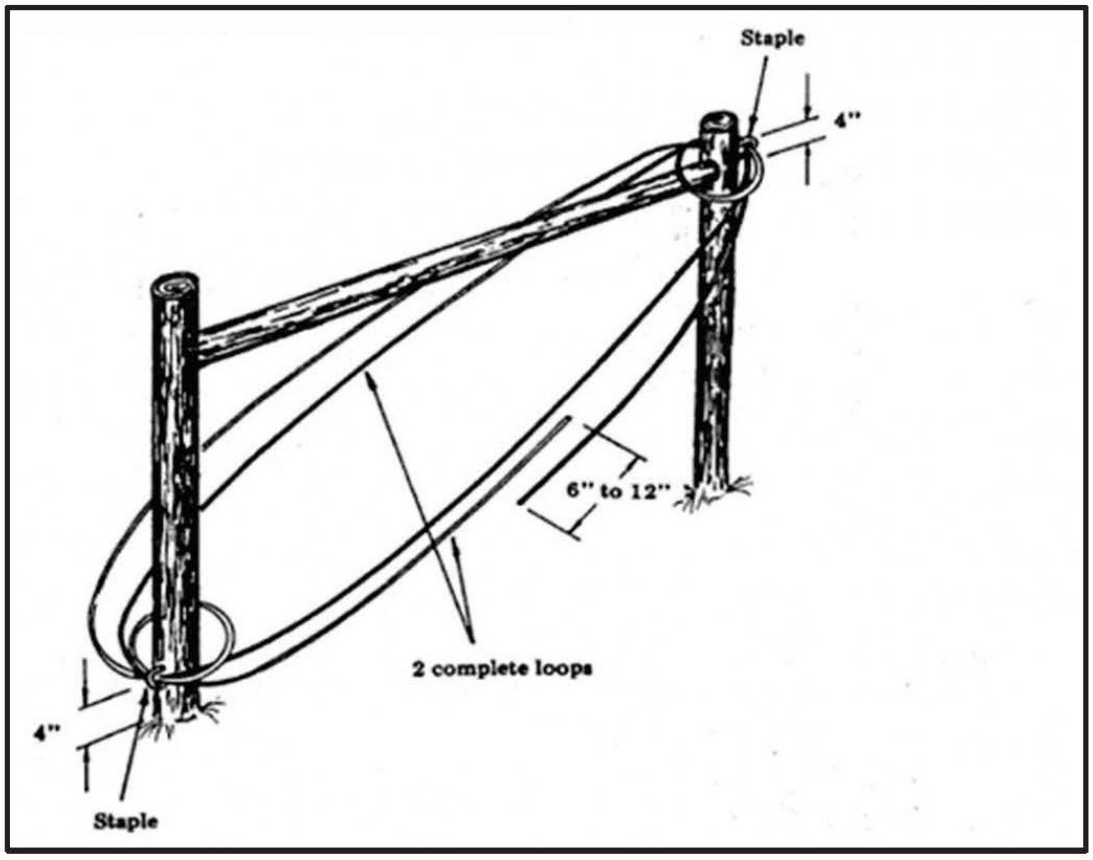
  - Landscape timbers **WILL NOT** be used in any part of the fence.

- **2. SETTING POSTS**
  - **All posts** will be buried no less than three (3) feet deep.
    - **EXCEPTIONS: ***CONTACT ZONE RMS FOR APPROVAL AND REQUIREMENTS**
    - Sandy soils and consistently wet soils require additional depth
      - Minimum depths for driven steel pipe posts will be as follows:

Pipe size	Depth driven
2 3/8 in	5 ft
2 7/8 – 4 ½ in	4 ft
5+ in	3 ft

- Backfilled with concrete:
  - It is suggested to have bottom of hole belled-out to anchor concrete
  - If post hole completely filled, top of concrete should be sloped so water can runoff away from post.
  - In some soils, post hole may be filled up to 12 inches from surface with concrete, once dry, backfill with soil on top. ***Contact Zone RMS to determine suitability of site.**
- Backfilled with soil:
  - Small amounts of soil should be tamped at a time (4-6 inch lifts)
  - All excavated soil will be returned to hole and tamped down firmly.
- **v.** Tension wires for brace assembly (Wooden brace assembly) (Figure 2)

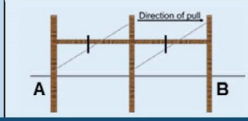
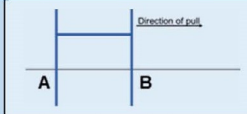
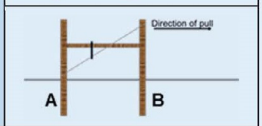
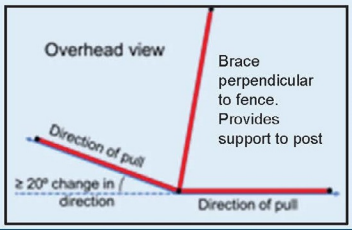
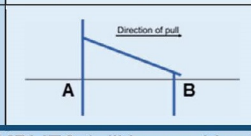
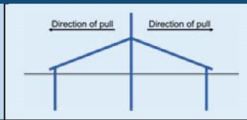
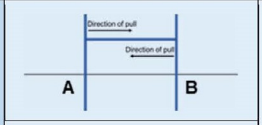
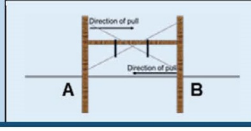
Figure 2



1. Diagonal wire shall be constructed of two (2) loops of either 9-gauge smooth wire or 12 ½ gauge high tensile smooth wire, or a double strand 12 ½ gauge barbed or smooth wire.
2. Wire will be twisted, or strained, to provide necessary rigidity.
3. Brace wire will be wrapped and stapled to brace post 4-6 inches above horizontal brace member.
4. Brace wire will be wrapped and stapled to anchor post at a point four (4) inches above ground level.

- **vi.** All steel brace assemblies will be welded (Table 2)
  - **a. EXCEPTION: <u>***CONTACT ZONE RMS FOR APPROVAL</u>**
    - Some locations allow no access or very difficult access with a welder.
    - Environmental conditions are such that material used is then weakened by welding.
      - In these cases, a “No Weld” fence assembly and brackets may be used.
        - Clamps will be made from ¼” A36 steel.
        - Galvanized to meet or exceed ASTM – F 626

Table 2

ANCHOR BRACE ASSEMBLIES (Used at ends, corners, gates, slope changes > 8%)			
WELDED STEEL 3-POST DIAGONAL END BRACE ASSEMBLY		Minimum – distance between all vertical posts will be six (6) feet.	Will be used for all fence stretches greater than 660 feet. Horizontal member will be no lower than 2/3 height of top wire of fence. If wooden posts are used, refer to Fence specification III. A. vi. Tension wires for brace assembly
THREE POST DOUBLE H-BRACE	 		
SINGLE H-BRACE END or CORNER ASSEMBLY	 	Minimum – distance between **A** and **B** will be two (2) times the height of fence. Where fence changes direction more than 20º, brace will be used perpendicular to fence to provide support to anchor post. 	May be used for stretches less than 660 feet. Horizontal member of H-Brace will be no lower than 2/3 height of top wire of fence. If wooden posts are used, refer to Fence specification III. A. vi. Tension wires for brace assembly
STEEL WELDED SINGLE POST END or CORNER ASSEMBLY			
IN LINE PULL ASSEMBLIES (will be used in stretches of ≥ 1,320 or greater than one spool of barb wire)			
THREE POST WELDED PULL ASSEMBLY		Minimum – distance between all vertical posts will be six (6) feet.	Planned location will be mid-point of stretch. Horizontal member of H-Brace will be no lower than 2/3 height of top wire of fence. If wooden posts are used, refer to Fence specification III. A. vi. Tension wires for brace assembly
H-BRACE PULL ASSEMBLY	 	Minimum – distance between A and B will be six (6) feet.	

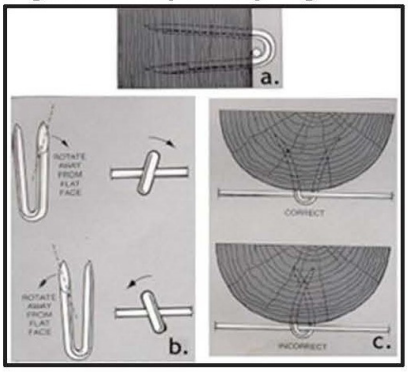
- **B. STAYS**
  - **i.** Will be constructed of durable materials designed for intended purpose
  - **ii.** Length will be fence height plus two (2) inches and installed so stays swing free of the ground and allow fence to move when touched by animal.
  - **iii.** Will be used when line post spacing exceeds maximum without stays, spaced at equal distances between posts.
- **C. WIRE**
- There are three major categories of wire: All wire will be new material and meet criteria listed below.
  - **i. Barbed**
    - ASTM – A 121
  - **ii. Smooth High Tensile**

- 12 ½ gauge; Break strength: 1,300 lbs; Tensile strength exceeds 170,000 psi; meet or exceed Class III galvanized
- **iii. Woven –** Best used where tight control is necessary – hog, sheep, goats, predator control
  - ASTM – A 116

- **Most wire manufacturers include wire specifications on fence tags. If information is not provided or known, lab testing may be needed to determine strength of wire.**

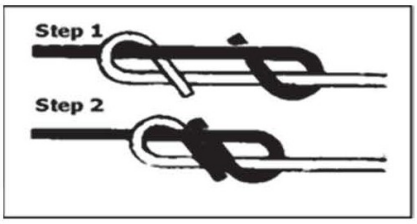
- **D. WIRE ATTACHMENTS**
- **i. Staples (Figure 3)**
  - **1.** 9-gauge steel staples; minimum length 1 ½ inches.
  - **2.** Driven diagonally to wood grain (avoid splitting post) at a slight downward angle (upward if pull is up)
  - **3.** Space left between post and staple to allow movement of wire and avoid damage to zinc coating.

Figure 3: Proper stapling techniques



- **ii. Wire clips –** will be galvanized and greater than or equal to strength of fence wire.
- **iii. Wire splices**
  - **1.** High tensile wire:
    - Figure 8 – used by overlapping wires two (2) inches, looping each wire over and back through and then pulled together. Splice will tighten as fence is stretched (Figure 4)

Figure 4: Figure 8 splice



  - **2.** Standard wire:
    - Western Union (preferred) – splices will have a minimum of four (4) wraps on each side of center, tightly wound and closely spaced (Figure 5).
    - Loop splices – splices will have a minimum of four (4) wraps on each side.

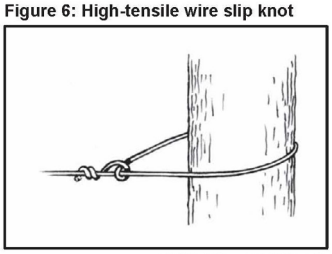
Figure 5: Western Union splice

- **3.** High Tensile and Standard wire:
  - Compression fittings or splice sleeves
    - Tensile strength will not be less than 80% of the wire
    - Sleeves will be installed according to manufacturer's specifications.
    - Two (2) 3/8 inch sleeves or one (1) ¾ inch sleeve installed at each splice.

WIRE INSTALLATION

- **A.** Wire manufacturer installation protocol may be used in lieu of standard methods, if desired.
- **B.** High tensile wire may be attached to brace assemblies using the high-tensile wire slip knot (Figure 6)

Figure 6: High-tensile wire slip knot



- **C.** Standard wire will be attached to brace assemblies wrapped twice around the anchor post and ends tightly twisted around stretched wire a minimum of six (6) times.
- **D.** Fence wire will be stretched to sufficient tension prior to being fastened to posts. Temperature
- variations must be considered (wire will tighten in cold weather and expand in hot weather).
- **E.** For suspension fences, wire tension is critical, and wires will be stretched to allow no more than 3
- inches of sag between posts set at 100 feet and 1.5 inches for posts at 50 feet.
- **F.** Boundary and exclusion fences – wire will be on side of post facing animals to be controlled.
- **G.** Wire may be on either side of the post when cross fencing.

ELECTRIC FENCE – ADDITIONAL COMPONENTS AND MATERIAL SPECIFICATIONS

A. ENERGIZER

- **i.** High voltage, low impedance that can produce at least 5,000-volt peak output and a short pulse that is less than 300 mAmps in intensity, finished within 0.0003 of a second and a rate of 35 - 65 pulses per minute.
- **ii.** 110-volt, 220-volt, or battery powered system capable of working 3 weeks. If the length of the fence requires an energizer of more than 4 joules, a solar charger will be needed on the battery systems.
- **iii.** Minimum voltage on fence for livestock control:
  - **1.** Cattle – 1600
  - **2.** Sheep and hair goats – 2000

    - **3.** Hogs, horses, and meat goats – 1200
- **iv.** High impact, weather resistant case
- **v.** Safety pace fuse to prevent over-pulsing
- **vi.** Will be installed according to manufacturer's recommendations

B. GROUND

- **i.** Follow manufacturer's written recommendations for grounding.
- **ii.** Rods should be galvanized pipe or rod ½ inch diameter or larger.
    - **1.** Copper rods with copper wire may be used if energizer terminals are copper or stainless steel.
    - **2.** If energizer terminals are not copper or stainless steel, do not use copper ground rods due to corrosion at the connection.
- **iii.** Rods should be driven where soil remains moist, for best results.
- **iv.** Drive rods at least 10 feet apart.
- **v.** Do not use grounding system for other existing applications, such as power poles, breaker boxes, etc.
- **vi.** At least 65 feet should separate fence grounding system from other grounding systems. (For safety precautions, grounding system should be greater than 25 feet from well casings.)

C. SURGE PROTECTOR

- **i.** For protection of 120- or 240-volt energizers, a voltage surge protector will be installed between the energizer and power supply.

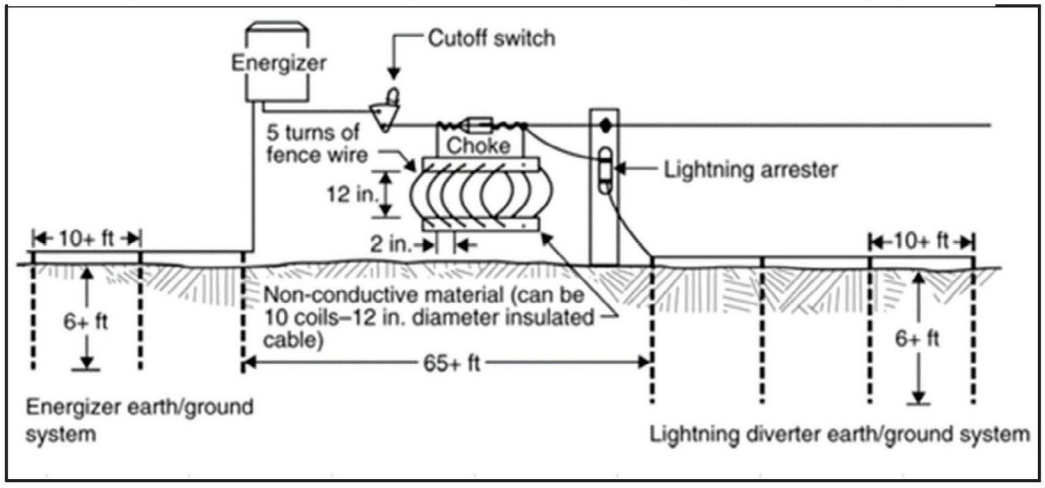
D. INSULATORS

- **i.** Porcelain, ceramic, high quality UV stabilized polyethylene or equivalent will be used on wood and steel posts
- **ii.** Offset brackets may be attached to standard fences at intervals of 50-60 feet and 2/3 the height of the animal controlled.
- **iii.** Shall be capable of withstanding a minimum 10,000 volts.

E. LIGHTNING PROTECTION

- **i.** If available, follow manufacturer's written recommendations for installing lightning protection.
- **ii.** If not available: (Figure 7)
    - **1.** Lightning arrestor grounding rods should be placed at least 65 feet from those of the energizer.
    - **2.** Use at least one (1) more ground rod on the arrestor than was used on the energizer. Attach the lightning arrestor to the wires of the fence.
    - **3.** Install a lightning choke in the fence line immediately between the lightning arrestor and the energizer.
    - **4.** The lightning arrestor ground must be better than the energizer ground for it to function properly, because lightning will seek the least resistance route to ground.

Figure 7: Typical installation of a Low-Impedance Electric Fence Energizer and Grounding System



F. OTHER ACCESSORIES

- **i.** Warning signs: Recommended every 300 ft on exterior fences. Should be posted around barns, troughs, & other facilities as specified by local, state, and/or federal laws or regulations.
- **ii.** Gates for electric fences shall be installed according to manufacturer's recommendations.
- **iii.** Gate handles, switches, & other hardware used to conduct electrical current must be galvanized or contain aluminum components.

FENCE PLAN

Prior to construction, utility check sheet must be completed to ensure all underground utilities are avoided.

When planning fence, a completed design/construction specification sheet will be completed and discussed with the producer. (TX-382 IR)

OPERATION AND MAINTENANCE

Regular inspection of fences should be part of an on-going maintenance program. Inspection of fences after storm and other disturbance events is necessary to insure the continued proper function of the fence. Maintenance and repairs will be performed in a timely manner as needed, including tree and limb removal and water gap replacement. This includes the prevention of vegetative growth or removal of woody vegetation in the fence.

Remove and properly discard all broken fencing materials and hardware. All necessary precautions should be taken to ensure the safety of construction and maintenance crews.

VARIANCES

Requests for variances will be submitted to the State Rangeland Management Specialist.

SUMMARY - FENCE MATERIALS AND INSTALLATION REQUIREMENTS

Fence type	Summary - Fence Materials and Installation Requirements Wire	Corner, End, Gate, & Brace post	Corner, End & Gate post size	Brace post size	Brace intervals	Line post	Line post size	Line post spacing
Permanent	Designed to be in place with minimal maintenance requirements. Used for exterior (boundary) fencing of property and fencing of specific landuses (such as cropland) as well as for interior division fencing (cross fencing).							
Barbed wire	ASTM – A 121 min. 12 ½ - gauge standard wire or 15 ½ - gauge high tensile	Steel pipe or Wood	Steel posts: min 2 ⅜ in set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 6 in set in ground to min depth 3 feet	Steel post: min. 2 ⅜ in.; set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 5 in; set in ground to min depth 3 feet	Single H-Brace or Steel Welded Single post assembly: may be used when fence is less than 660 feet between corner, end, and/or gate posts Double H-Brace or 3-post assembly: used when fence is more than 660 feet between corner, end, and/or gate posts. In-Line Pull Assemblies: Use to divide fence lengths where run of fence is more than 1,320 feet long.	Steel pipe Steel "T" posts Wood	Steel post: min. 2 ⅜ in set in ground to min depth 2 feet Steel "T": min 1.25 lbs/ft. Drive into ground to bury top of anchor plate 2 in. Wood posts: min 3 in set in ground to min depth 2 ½ feet	Without stays: Max. 20 feet With stays: Max. 30 feet
High Tensile, non-electric smooth wire Need more strands than barbed wire. Safer for horses & wildlife.	ASTM Class III galvanized 12 ½-gauge, 170,000 PSI, 1,300 lbs. break strength	Steel pipe or Wood	Steel posts: min 2 ⅜ in set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 6 in set in ground to min depth 3 feet	Steel post: min. 2 ⅜ in.; set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 5 in; set in ground to min depth 3 feet	Single H-Brace or Steel Welded Single post assembly: may be used when fence is less than 660 feet between corner, end, and/or gate posts Double H-Brace or 3-post assembly: used when fence is more than 660 feet between corner, end, and/or gate posts. In-Line Pull Assemblies: Use to divide fence lengths where run of fence is more than 1,320 feet long.	Steel pipe Steel "T" posts Wood	Steel post: min. 2 ⅜ in set in ground to min depth 2 feet Steel "T": min 1.25 lbs/ft. Drive into ground to bury top of anchor plate 2 in. Wood posts: min 3 in set in ground to min depth 2 ½ feet	Without stays: Max. 20 feet With stays: Max. 30 feet
Woven wire Best used where tight control is necessary – hog, sheep, goats, predator control	ASTM – A 116	Steel pipe or Wood	Steel posts: min 2 ⅜ in set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 6 in. set in ground to min depth 3 feet	Steel post: min. 2 ⅜ in.; set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 5 in; set in ground to min depth 3 feet	Single H-Brace or Steel Welded Single post assembly: may be used when fence is less than 660 feet between corner, end, and/or gate posts Double H-Brace or 3-post assembly: used when fence is more than 660 feet between corner, end, and/or gate posts. In-Line Pull Assemblies: Use to divide fence lengths where run of fence is more than 1,320 feet long.	Steel pipe Steel "T" posts Wood	Steel post: min. 2 ⅜ in set in ground to min depth 2 feet Steel "T": min 1.25 lbs/ft. Drive into ground to bury top of anchor plate 2 in. Wood posts: min 3 in set in ground to min depth 2 ½ feet	Without stays: Max. 20 feet With stays: Max. 30 feet High Tensile woven wire without stays: Max. 25 feet
High Tensile, Electric Mostly used for interior cross fencing but can also be used for boundary fences.	ASTM Class III galvanized 12 ½-gauge, 140,000 PSI, 1,000 lbs. break strength	Steel pipe or Wood	Steel posts: min 2 ⅜ in set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 6 in set in ground to min depth 3 feet	Steel post: min. 2 ⅜ in.; set in ground to min depth 3 feet if backfilled or driven 5 feet Wood posts: min 5 in; set in ground to min depth 3 feet	Single H-Brace or Steel Welded Single post assembly: may be used when fence is less than 1,320 feet between corner, end, and/or gate posts **A single post end brace may be used Double H-Brace or 3-post assembly: used when fence is more than 1,320 feet between corner, end, and/or gate posts. In-Line Pull Assemblies: Use to divide fence lengths where run of fence is more than 2,640 feet long (1/2 mile). A single post end brace may be used in certain situations. Contact Zone RMS for specifics.	Steel pipe Steel "T" posts Wood Other	Steel post: min. 2 ⅜ in set in ground to min depth 2 feet Steel "T": min 1.25 lbs/ft. Drive into ground to bury top of anchor plate 2 in. Wood posts: min 3 in set in ground to min depth 2 ½ feet Contact Zone RMS	Without stays: Max. 100 feet With stays (2 or more): Max. 150 feet

Fence type	Summary - Fence Materials and Installation Requirements Wire	Corner, End, Gate, & Brace post	Corner, End & Gate post size	Brace post size	Brace intervals	Line post	Line post size	Line post spacing
Temporary	Only used for interior cross fencing and areas where pressure from livestock is not heavy. May be easily attached to permanent fences							
Electric High Tensile Net fencing (sheep & goats) Polyethylene twine &/or tape	 ASTM Class III galvanized 12 ½-gauge Polywire w/ at least 6 strands	Steel pipe or Wood	Diameter sufficient to anchor wire. Posts will be long enough to allow them to be set at least 1 ½ feet in ground	Not applicable	Not applicable	Fiberglass plastic, or other suitable material as approved by NRCS.	Min. 4 feet long, set deep enough in the ground to withstand livestock. May use "step-in" posts.	<u>Without stays:</u> Max. 100 feet <u>With stays (2 or more):</u> Max. 150 feet Spacing specified by manufacturer
Other	Generally used around corrals and homesteads. They may be used to restrict access to unsafe areas such as lagoons, abandoned mines and other unsafe or sensitive areas. When used for livestock control, they will be designed based on the type of animal controlled. Generally more expensive to install and maintain.							
Wooden Board	Wood rails – use well-seasoned or kiln-dried wood to minimize warping. Rails min. 1x6 8 feet long Non-durable wood must be preservative pressure treated for UC3B, Above Ground, Exposed Use.	Steel pipe or Wood	<u>Steel posts:</u> min 2 ⅜ in set in ground to min depth 3 feet if backfilled or driven 5 feet <u>Wood posts:</u> min 6 in set in ground to min depth 3 feet	Not applicable	Not applicable	Steel pipe Steel "T" posts Wood	<u>Steel post:</u> min. 2 ⅜ in set in ground to min depth 2 feet <u>Steel "T":</u> min 1.25 lbs/ft. Drive into ground to bury top of anchor plate 2 in. Wooden posts min. 4 in diameter or 4 in square. Length sufficient to support desired height of fence and depth of set	Max. 8 feet on center
Chain link	Min. 9-gauge galvanized wire with 2 ounces of zinc coating per sq. ft. Minimum tensile strength of 1,290 lbs., 2-inch woven mesh.	Steel (Schedule 40 steel pipe) galvanized w/ 2 oz zinc coating per sq ft or painted	<u>Steel post:</u> min. 2 ⅜ in set in ground to min depth 12 inches	Not applicable	Not applicable	Steel (Schedule 40 steel pipe) galvanized w/ 2 oz zinc coating per sq ft or painted	<u>Steel post:</u> min. 2 in set in ground to min depth 12 inches	Max. 10 feet on center
Other fence types may be used (pipe, vinyl, galvanized panel and cable fences). Specifications for each type will be developed on case by case basis in coordination with Zone and State RMS.								

APPROVAL AND CERTIFICATION

PRACTICE SPECIFICATIONS APPROVED:

CHARLES KNEUPER Digitally signed by CHARLES KNEUPER Date: 2019.12.11 10:51:31 -06'00' — 12/11/2019

STATE RANGELAND MANAGEMENT SPECIALIST — DATE

ROBERT ZIEHR Digitally signed by ROBERT ZIEHR Date: 2020.10.15 14:35:34 -05'00'

STATE RESOURCE CONSERVATIONIST — DATE

REVIEWED BY:

STANLEY BRADBURY Digitally signed by STANLEY BRADBURY Date: 2019.11.20 07:38:10 -06'00'

RANGELAND MANAGEMENT SPECIALIST–ZONE 1

PRESTON IRWIN Digitally signed by PRESTON IRWIN Date: 2019.12.11 10:01:08 -06'00'

RANGELAND MANAGEMENT SPECIALIST–ZONE 2

VIVIAN GARCIA Digitally signed by VIVIAN GARCIA Date: 2019.11.20 07:48:35 -06'00'

RANGELAND MANAGEMENT SPECIALIST–ZONE 3

JASON HOHLT Digitally signed by JASON HOHLT Date: 2019.11.18 11:51:55 -06'00'

RANGELAND MANAGEMENT SPECIALIST–ZONE 4

MICHAEL WILLSON Digitally signed by MICHAEL WILLSON Date: 2019.12.10 13:14:23 -06'00'

RANGELAND MANAGEMENT SPECIALIST–ZONE 5

Specific Site Requirements